

Monday, July 25, 2016 2:36:15 PM

Page 1

Quality Control

Qty: 6.00
Qty: 6.00

DAS
21
9-89

6

Co 16-10-07

6 _____ P1610-07

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

Work Order ID 149558

Monday, July 25, 2016 2:36:15 PM

149558

Page 2

Item ID: D3953-5 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Gas Spring Stud, Base
Start Date: 7/28/2016 Start Qty: 6.00 ***6*** Cust Item ID:
Required Date: 8/4/2016 Req'd Qty: 6.00 ***6*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC8- Inspect parts - second check	0.00							DAS 14 9-89
120						6	0		
QC	Memo	0.02							
Quality Control									16/10/07
130	Identify as per dwg & Stock Location: <u>Sto62</u>	0.00							AS 3 89
130						6	OCT 12 2016		
Packaging	Memo	0.01							
Packaging									
140	QC21- Final Inspection - Work Order Release	0.00							DAS 21 9-89
140								OCT 13 2016	
QC	Memo	0.10							
Quality Control						DAS 21 9-89			

OCT 12 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																							
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OTHER :																																																															

Picklist Print

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Page 1

Work Order ID: 149558

149558

Parent Item: D3953-5

D3953-5

Parent Item Name: Gas Spring Stud, Base

Start Date: 7/28/2016

Required Date: 8/4/2016

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP RevA: New issue DD verified by:EC
DD 10.03.02 verified by:EC

IPP Rev:B as per dwg revC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304R1.750		Purchased	No			100	f	10.2920	0.125	0.789473			

M304R1 750

304 ROUND BAR 1.750

Location

MAT029

113295

m128882

Loc Qty

10.292

1.75-

8.542

Loc Code

1.1875

16-10-07

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER :							

DART AEROSPACE LTD		Work Order:	149558
Description: Gas Spring Stud, Base		Part Number:	D3953-5
Inspection Dwg: D3953	Rev: C	Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

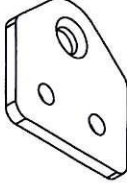
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.813	+/-0.010	.816	✓		Height gage	
Ø0.194	+0.004/-0.001	.194	✓		gage pin	
0.75	+/-0.030	.749	✓		Vern	
0.375	+/-0.010	.375	✓		Mic LPO6	
0.38	+/-0.030	.380	✓		↓	
0.875	+/-0.010	.873	✓		LPO9	
1.63	+/-0.030	1.632	✓		↓	
1/4-28 UNF-2A	Max = 0.2668 Min = 0.2635	.264	✓		Mic OI	
R0.06	+/-0.030	.06	✓		Rad gage	
Ø0.098	+0.004/-0.001	.098	✓		gage pin	
0.250	+/-0.010	.248	✓		Mic LPO	
0.170	+/-0.010	.169	✓		Mic LPO6	
0.330	+/-0.010	.332	✓		Vern LPO9	
0.13	+/-0.030	.131	✓		↓	
1.44	+/-0.030	1.443	✓		↓	

Measured by: <i>16-10-07</i>	Audited by: <i>DAS 14 9-39</i>	Prototype Approval:	N/A
Date:	Date: 16/10/07	Date:	N/A

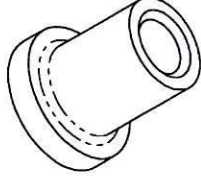
Rev	Date	Change	Revised by	Approved
A	09.11.11	New Issue	KJ	
B	09.12.14	Dwg Rev updated	KJ	

DATE	10.01.29
DESIGN	AJS
DRAWN	JPH
CHECKED	JPH
MFG. APPR.	JPH
APPROVED	JPH
DE APPR.	JPH
TITLE	GAS SPRING LID COMPONENTS
SCALE	SHEET 1 OF 4
REV. C	REV. C
DART AEROSPACE LTD HAMKESBURY, ONTARIO, CANADA	
DESCRIPTION	DATE
NEW ISSUE	09.07.27
ASSY.	AJS
SHEET 3 ZONE C1, DIM 0.05 MIN WAS 0.13 MULTIPLE DIMENSIONS MIN/MAX REMOVED TOLERANCE ADDED. REASON: DIFFICULTY INSTALLING COTTER PIN AT NEXT	09.11.11
PARTS -19 & -21 ADDED (SHT 18 & 4). CSK CALLOUT WAS CHAM (C6-2, 95-3, C6-4) & SYM WAS 6 SYM ABOUT (C7-2, C7-4). SECTION C-C REPOSITIONED TO B2.4 REASON: ADDL PARTS REQD. DRAFTING ERRORS	10.01.29
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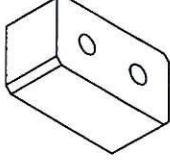
D3953-21 GAS SPRING BRACKET
(SQUARE BASKET)



D3953-11 GAS SPRING SPACER



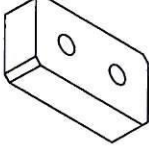
D3953-13 GAS SPRING SPACER
(FULL LID)



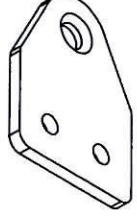
D3953-15 GAS SPRING BRACKET
(SPLIT LID)



D3953-17 GAS SPRING SPACER
(SPLIT LID)



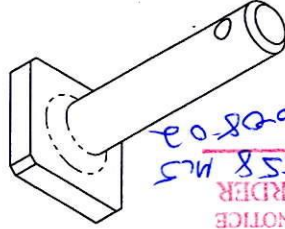
D3953-19 GAS SPRING BRACKET
(SQUARE BASKET)



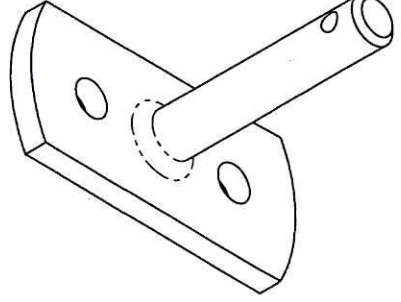
D3953-1 GAS SPRING BRACKET
(FULL LID)



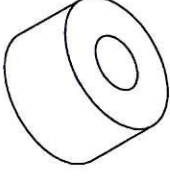
D3953-3 GAS SPRING STUD, LID



D3953-5 GAS SPRING STUD, BASE



D3953-7 GAS SPRING SPACER

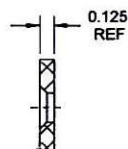


D3953-9 GAS-SPRING WASHER

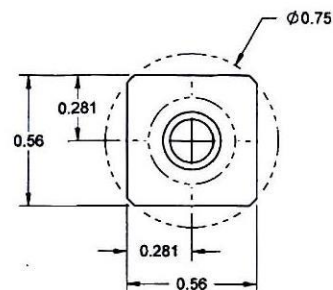


SHOP COPY
RETURN TO
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UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 149558 m.s
160802

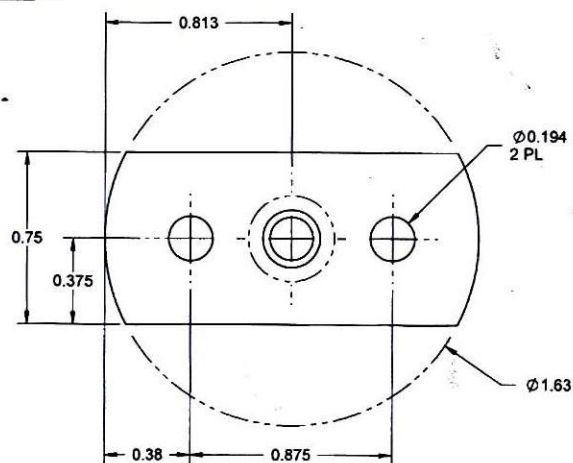
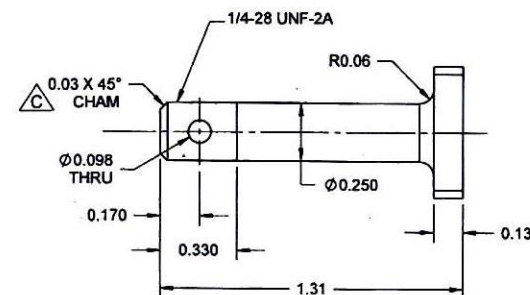
RELEASED
R 2010-02-26
JPH



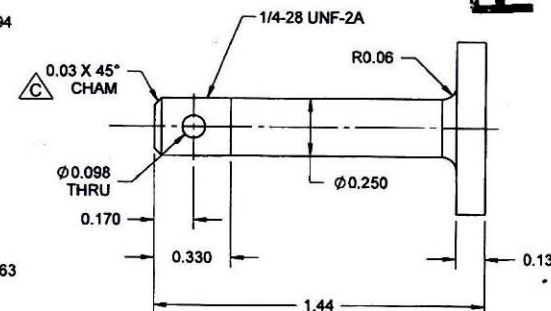
SECTION A-A C7-2



D3953-3 GAS SPRING STUD, LID



D3953-5 GAS SPRING STUD, BASE



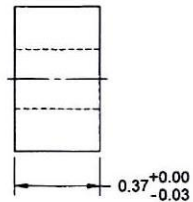
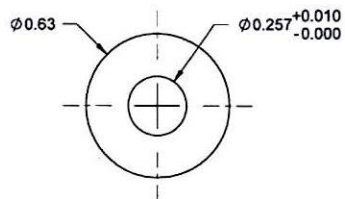
RELEASED
2010-02-26

1) MATERIAL -1: 304/316 STAINLESS STEEL SHEET ANNEALED 2B FINISH,
PER MIL-S-5059 OR AMS 5513/5524 OR ASTM A240 OR ASME SA240
REF DART SPEC M304S11GA

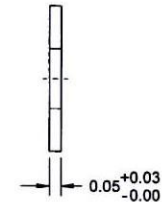
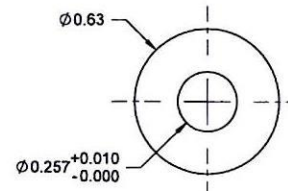
-3 & -5: AISI 304 STAINLESS STEEL BAR
REF DART SPEC M304B
OR:
AIS1 304/316 STAINLESS STEEL ROD
REF DART SPEC M304R

- 2) FINISH: N/A
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3853-X" USING FINE POINT PERMANENT INK MARKER
7) WEIGHT -1: 0.11 lbs
 -3: 0.03 lbs
 -5: 0.06 lbs

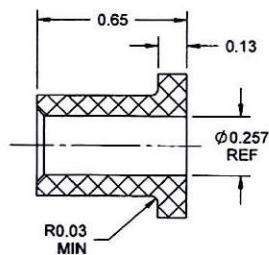
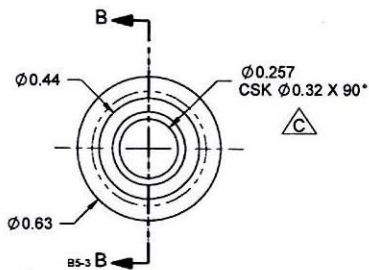
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DRAWN	JPH		SHEET 2 OF _____
CHECKED	<i>[Signature]</i>		SCALE _____
MFG. APPR.	<i>[Signature]</i>		NT _____
APPROVED	<i>[Signature]</i>		
DE APPR.	<i>[Signature]</i>		
DATE	10.01.29		



D3953-7 GAS SPRING SPACER

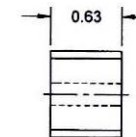
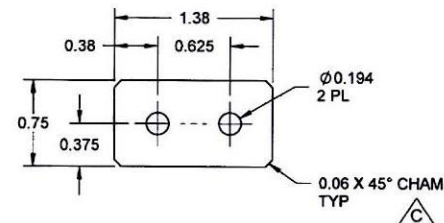


D3953-9 GAS SPRING WASHER



SECTION B-B B7-3

D3953-11 GAS SPRING SPACER



D3953-13 GAS SPRING SPACER

NOTES:

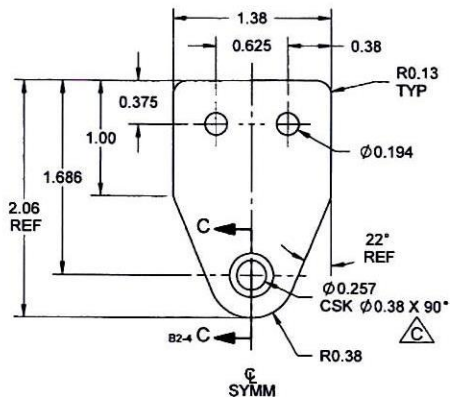
1) MATERIAL -7, -9 & -11: DELRIN II 150E OR ACETRON GP ACETAL, BLACK
REF DART SPEC M-DELRIN-R

-13: AISI 304 STAINLESS STEEL BAR
REF DART SPEC M304B

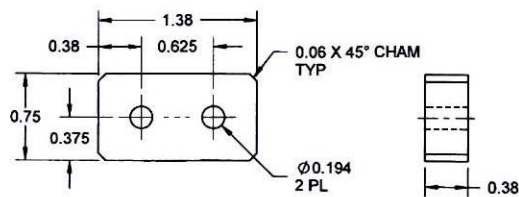
- 2) FINISH: N/A
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION -13 ONLY: IDENTIFY WITH DART P/N "D3953-13" USING FINE POINT PERMANENT INK MARKER
7) WEIGHT -7/-9/-11: < 0.01 lbs EACH
-13: 0.17 lbs

RELEASED
2010-02-26

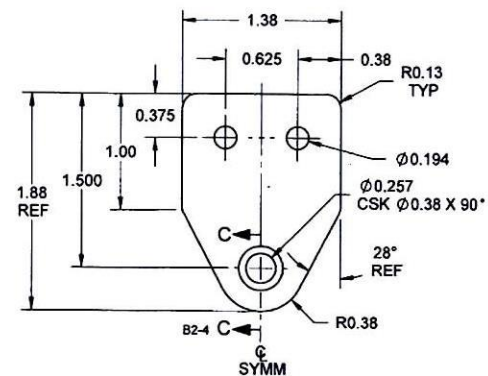
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DRAWN	JPH	HAWKESBURY, ONTARIO, CANADA	
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MFG. APPR.	<i>[Signature]</i>	D3953	SHEET 3 OF 4
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	GAS SPRING LID COMPONENTS	
DATE	10.01.29	NTS	
COPYRIGHT © 2009 BY DART AEROSPACE LTD			
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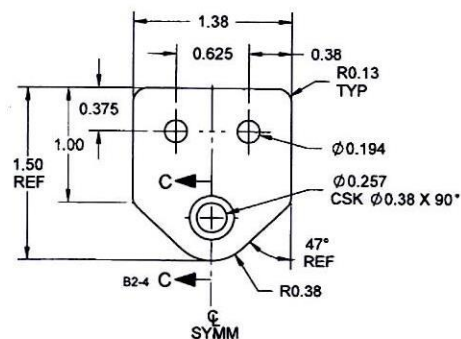
D3953-15 GAS SPRING BRACKET
(SPLIT LID)



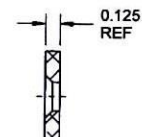
D3953-17 GAS SPRING SPACER
(SPLIT LID)



D3953-19 GAS SPRING BRACKET
(SQUARE BASKET)



D3953-21 GAS SPRING BRACKET
(SQUARE BASKET)



SECTION C-C

NOTES:

- 1) MATERIAL -15/-19/-21: 304/316 STAINLESS STEEL SHEET ANNEALED 2B FINISH.
PER MIL-S-5059 OR AMS 5513/5524 OR ASTM A240 OR ASME SA240
REF DART SPEC M304S11GA
- 17: AISI 304 STAINLESS STEEL BAR
REF DART SPEC M304B
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3953-X" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT -15: 0.08 lbs
-17: 0.10 lbs
-19: 0.07 lbs
-21: 0.06 lbs

DESIGN	AJS	DART AEROSPACE LTD	
DRAWN	JPH	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D3953	SHEET 4 OF 4
APPROVED		TITLE	SCALE
DE APPR.		GAS SPRING LID COMPONENTS	NTS
DATE	10.01.29	COPYRIGHT © 2009 BY DART AEROSPACE LTD	
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2010-02-26